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Chironomids of the Subfamily Diamesinae (Diptera, Chironomidae) from Japan

I. *Sasayusurika aenigmata* gen. et sp. nov.

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Abstract A new genus, *Sasayusurika*, with the single included species *S. aenigmata* sp. nov. is described from the Nikko National Park in Japan, Honshu. The new genus is close to *Lappodiamesa*, *Pseudokiefferiella* and *Pseudodiamesa*, but differs from them in wide U-shaped notch of antepronotal lobes and other characteristics of male hypopygium.

Systematic studies in chironomids of the subfamily Diamesinae of Japan were started in the thirties by the well-known Japanese scientist Dr. M. TOKUNAGA (1936, 1937 a, b, 1939, 1964 a, b, 1965), who described about 20 species new to science and the region. Recently, the chironomid fauna and systematics including those of the subfamily Diamesinae are extensively examined by Dr. M. SASA and his followers (SASA, 1979, 1984, 1989; SASA & KAWAI, 1985, 1987). Thanks to these scientists, some more new species from various regions of Japan became known to science.

Studying chironomids of the Holarctic subfamily Diamesinae together with Dr. E. WILLASSEN from Bergen University of Norway, I intended to revise Japanese species of this subfamily in the light of the latest achievement in taxonomy and systematics of this insect group. For this purpose I have analysed the type material kept at the collection of Dr. M. TOKUNAGA kindly arranged by Dr. H. HASHIMOTO. Moreover, I was able to visit Japan in March–April 1990 through invitation of Dr. M. SASA, President of Toyama University of International Studies, and to collect additional material on rivers of the central part of Honshu and Hokkaido for revising the Diamesinae. I am very grateful to Drs. M. SASA, H. KAWANABE, H. UCHIDA, T. IWAKUMA, K. TANIDA, T. ITO, T. KOBAYASHI, K. MORIYA, S. SASAKI, K. KAWAI, T. OKAZAWA, M. TADA, R. UENO, Y. TAKEMON and other Japanese colleagues who rendered invaluable help in my travel and sampling of chironomids in Japan. In addition it was possible to look through collections of chironomids kept at Kyoto University and some other places.

Revision of the subfamily Diamesinae is at present far from completeness. Nevertheless, based on the literature and our data, a preliminary list including 33 species belonging to 7 genera can be given as follows: *Boreoheptagyia brevitarsis* (TOKUNAGA), *B.*

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eburnea (TOKUNAGA), *B. nipponica* (TOKUNAGA), *Diamesa alpina* TOKUNAGA, *D. astyla* TOKUNAGA, *D. leona* ROBACK (=*breviala* TOKUNAGA), *D. japonica* TOKUNAGA, *D. matuimpedita* SASA, *D. plumicornis* TOKUNAGA, *D. tsukuba* SASA, *D. tsutsuii* TOKUNAGA, *D. gregsoni* EDWARDS, *Diamesa* sp., *Potthastia longimana* KIEFFER *P. matunigra* (SASA et KAWAI), *P. montium* (EDWARDS), *P. nigatana* (TOKUNAGA), *P. gaedii* (MEIGEN), *Pseudodiamesa branickii* (NOWICKI), *Ps. gr. nivosa* GOETGHEBUER, *Ps. crassipilosa* (TOKUNAGA), *Ps. yosiii* (TOKUNAGA), *Pagastia lanceolata* (TOKUNAGA), *P. nivis* (TOKUNAGA), *P. angarensis* (LINEVICH), *Sympotthastia takatensis* (TOKUNAGA), comb. nov. (=*S. khorensis* MAKARCHENKO), *Syndiamesa bicolor* TOKUNAGA, *S. chuzemagna* SASA, *S. kashimae* TOKUNAGA, *S. montana* TOKUNAGA, *Syndiamesa* sp., *Sasayusurika aenigmata* gen. et sp. nov.

This paper describes a new genus and species, *Sasayusurika aenigmata* gen. et sp. nov., from Honshu (Nikko National Park).

The terminology follows SAETHER (1980). Material was fixd in 70% ethanol.

Sasayusurika gen. nov.

Type species: *Sasayusurika aenigmata* sp. nov., by present designaton.

Diagnostic characters. Adult males of *Sasayusurika* are similar to those of *Lappodiamesa, Pseudokiefferiella and Pseudodiamesa*, but can be distinguished by wide U-shaped notch of antepronotal lobes. Clypeus without setae, ti_3 without tibial comb. At first glance, total view of hypopygium is similar to that in *Protanypus*, because the tergite IX lacks anal point and the gonostylus is very long and of the same shape as that in some species of *Protanypus*. However, the inner structure of hypopygium is different. Superior volsella present as a large lobe with short setae.

Etymology. Named in honour of Prof. Manabu SASA, President of Toyama University of International Studies.

Description.

Male imago. Medium-sized, wing length up to 4.9 mm.

Antenna:— Pedicel with 6 setae. Flagellum with 13 flagellomeres, plume well developed. Terminal flagellomere with subapical seta. Antennal ratio about 3.

Head:— Eyes pubescent, moderately extending dorsomedially. Temporal setae consisting of inner and outer verticals and postorbitals. Frontals and orbitals absent. Clypeus without setae. Tentorium swollen in basal 2/3.

Thorax:— Ante-pronotal lobes separated medially by U-shaped notch, with ventrolateral setae only. Acrostichals present; dorsocentrals erect and in 1 row; prealars ending above median anepisternum II; supraalars present.

Wing:— Membrane without setae, with moderate punctation. Anal lobe prominent, squama fringed. R_{2+3} ending before wing edge. FCu proximal to MCu. MCu flowing into FCu, R_{4+5} with a few setae in apical part.

Legs:— Front leg with pseudospurs, hind leg without tibial comb. Tarsomere 4 cylindrical and subequal in length to tarsomere 5.

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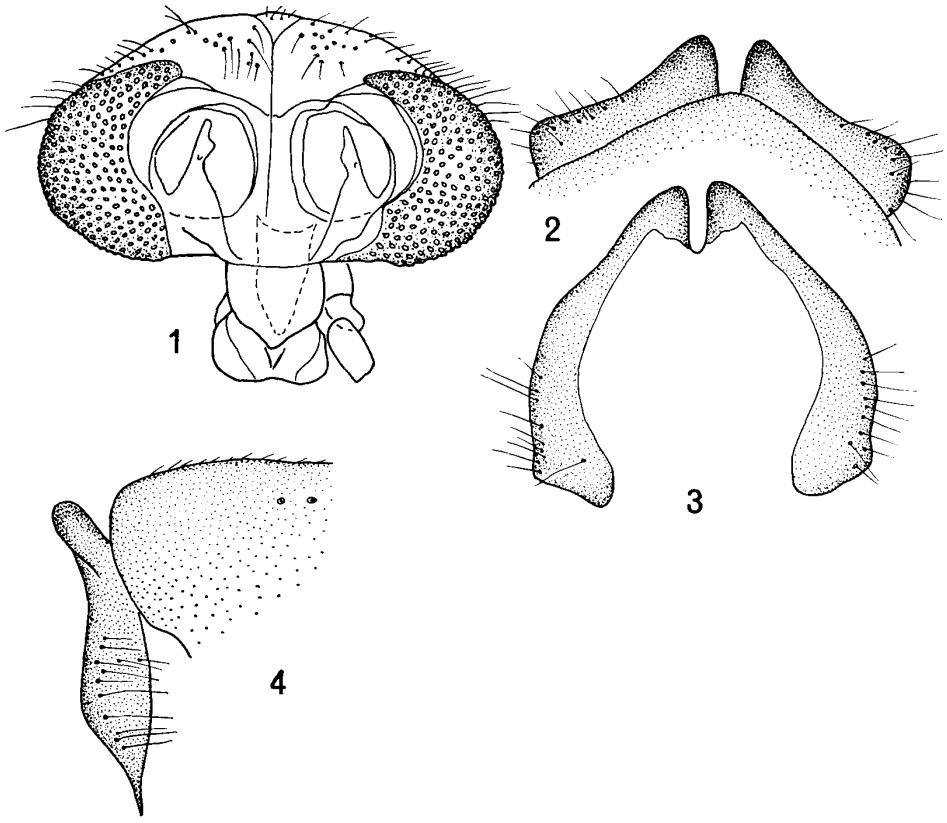

Figs. 1–4. Male of *Sasayusurika aenigmata* sp. nov.; 1, head; 2–3, antepronotum, dorsal view; 4, antepronotum and front part of scutum, lateral view.

Hypopygium:— Anal point absent. Pars ventralis present. Gonocoxite without appendages. Gonostylus very long and darker than gonocoxite. Superior volsella as a big lobe with short setae.

Female imago and immature stages unknown.

Sasayusurika aenigmata sp. nov.

(Figs. 1–10)

Type locality: Japan, Honshu, Nikko National Park.

Type material: Holotype, ♂, Japan, Honshu, Okunikko, Nikko City, Nikko National Park, Toyamazawa River, Tochigi Prefecture, 1,450 m in altitude, 21–IX–1988, leg. R. UENO. Preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. Paratypes: 1 ♂, same locality, 21–IX–1988, leg. R. UENO.

Diagnostic characters: See description of the genus.

Etymology: From Latin *aenigmata* – enigmatic.

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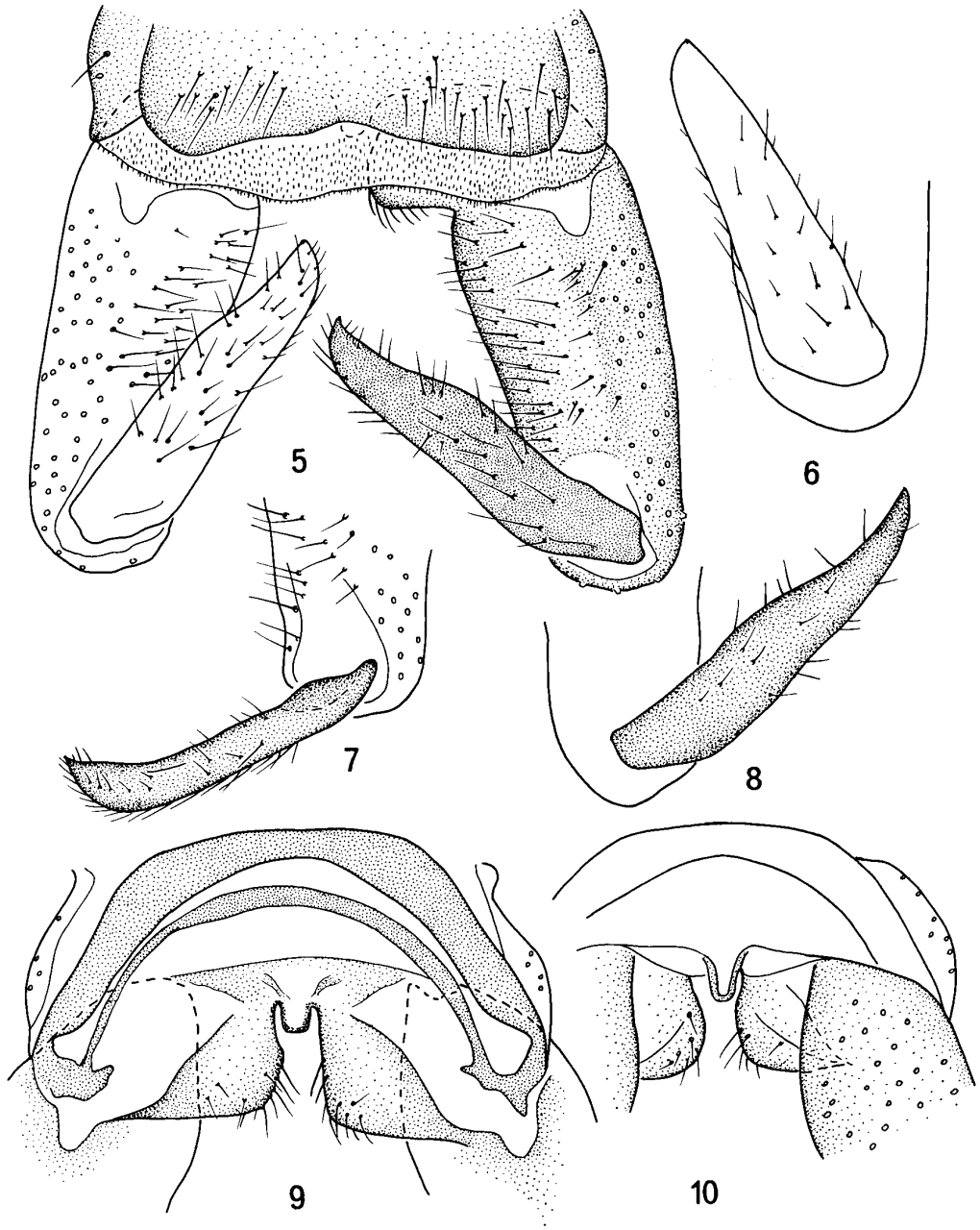
Description.

Male imago.

Color generally dark brown. Length 7.8 mm. Total length / wing length 1.7.

Head (Fig. 1):— Inner and outer verticals 31, postorbitals 11–16 (94.5–148.5 μm). Pedicel setae length 92.8 μm; maximal length of setae of 2–13 flagellomeres



Figs. 5–10. Male hypopygium of *Sasayusurika aenigmata* sp. nov.; 5, total view of hypopygium; 6–8, gonostylus in various position; 9, basal part of hypopygium without tergite IX, dorsal view; 10, basal part of hypopygium, ventral view.

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181.5 μm; subapical seta of terminal flagellomere length 35.2–38.4 μm. AR=2.85–3.1. Last 4 maxillary palpal segments length (μm): 64–112: 128–185.6: 150.4–224: 240–288. Diameter of sensilla capitata of third palpal segment 16 μm. Head width/palp length: 0.98–1.37.

Thorax:— Ante-pronotum with 19 (64–69.6 μm) ventrolateral setae distributed in basal 1/3 (Figs. 2–4). Acrostichals 11–13 (64–73.6 μm), dorsocentrals 10–12 (246.4–259.2 μm), prealars 12–14 (147.2 μm), supraalars 2–3, scutellars 72.

Wing:— R and R_1 with 19 (41.6 μm) setae, R_{4+5} with 1–2 setae. Squama with 60–82 (166.4–179.2 μm) setae in two rows.

Legs:— Front and hind legs with long setae, BR_1=5.3–6.0, BR_2=3.1–4.0, BR_3=6.3, $BRti_3$=5. Front tibial spur length 96–105.6 μm, middle tibial spurs length 76.8–80.0 and 64.0–73.6 μm, hind tibial spurs length 112–140.8 and 73.6–89.6 μm. Front and hind ta_4 1.1–1.2 times longer than ta_5; middle ta_4 equal to ta_5. Front ta_1 with 13–14 (41.6–44.8 μm) pseudospurs. Length (μm) and proportions of legs:

	fe	ti	ta_1	ta_2	ta_3	ta_4
P_1	1427–1576	1683–1896	1257–1385	767–895	490–554	245–256
P_2	1534–1789	1661–1853	873–1001	511–660	362–447	192–213
P_3	1704–1960	2087–2377	1342–1501	724–834	405–480	209–234

	ta_5	LR	BV	SV
P_1	213–234	0.73–0.75	2.50–3.09	2.47–2.51
P_2	192–202	0.53–0.54	3.05–3.23	3.64–3.66
P_3	167–192	0.63–0.64	3.30–3.45	2.82–2.89

Hypopygium (Figs. 5–10):— Tergite IX narrow and with 45 (70.4–105.6 μm) setae. Laterosternite with 10 (99.2–112 μm) setae. Anal point absent. Gonocoxite 472.5 μm long, basally with superior volsellae as a lobe with short setae. Gonostylus 310.5 μm long, macroseta short (9.6 μm). Gonostylus length / gonostylus width: 3.87, HR=1.5.

Distribution. This species is known from the type locality only, Japan: Honshu, Nikko National Park, Toyamazawa River.

Acknowledgement

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